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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/715,172	11/17/2003	Patrick M. Jones	EMER 2627 (E-2422)	4100
28997	7590	10/19/2005	EXAMINER	
HARNESS, DICKEY, & PIERCE, P.L.C			MULLINS, BURTON S	
7700 BONHOMME, STE 400			ART UNIT	
ST. LOUIS, MO 63105			PAPER NUMBER	
			2834	

DATE MAILED: 10/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/715,172

Applicant(s)

JONES, PATRICK M.

Examiner

Burton S. Mullins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-11 and 17-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-10, 17-19 and 21-27 is/are rejected.
- 7) ☒ Claim(s) 11 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

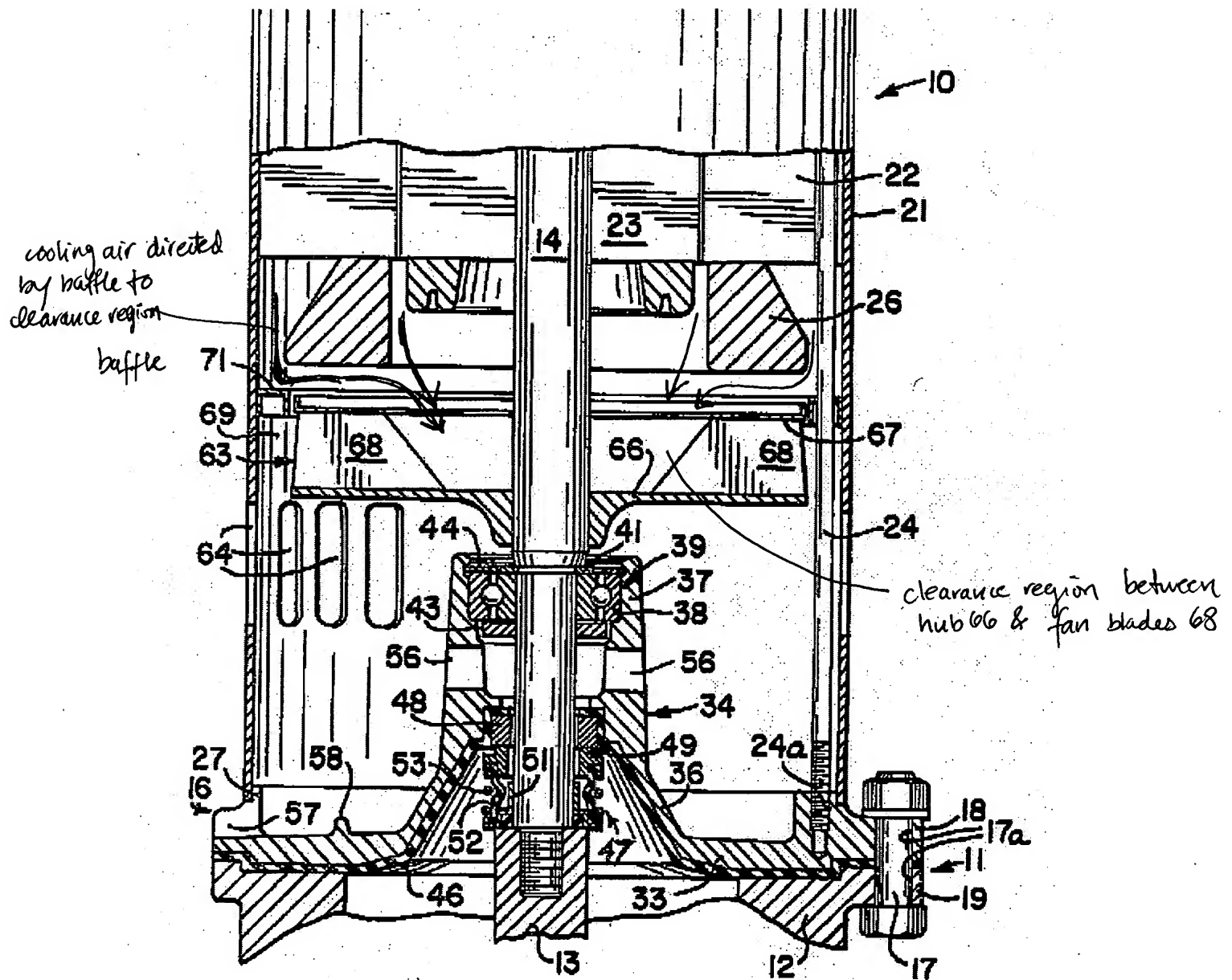
DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on June 29th, 2005 has been considered by the examiner.

Claim Rejections - 35 USC § 102

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 7 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Wetters (US 4,336,473). Wetters teaches a motor 10 comprising: a housing defined by a hollow casing (shell) 21; a stator 22 in the housing; a rotor 23 and rotor shaft 14 mounting the rotor for rotation in the housing (Fig.1); a fan 63 mounted on the rotor shaft 14 to advance a flow of cooling air through the housing (c.3, line 40-c.4, line 3), the fan having a central hub (disc part) 66 and plural blades 68 (Fig.1); and a baffle 71 in the housing at a position generally between the stator 22 and the fan 63 for directing flow, the baffle having an annular shape (c.3, line 63) and a central opening (not numbered, Fig.1) for passage of cooling air toward the fan (c.3, lines 64-67); wherein the blades 68 of the fan are spaced from the hub 66 thereby forming a clearance region (not numbered) between the hub and blades, the baffle directing said flow of cooling air through the clearance region.

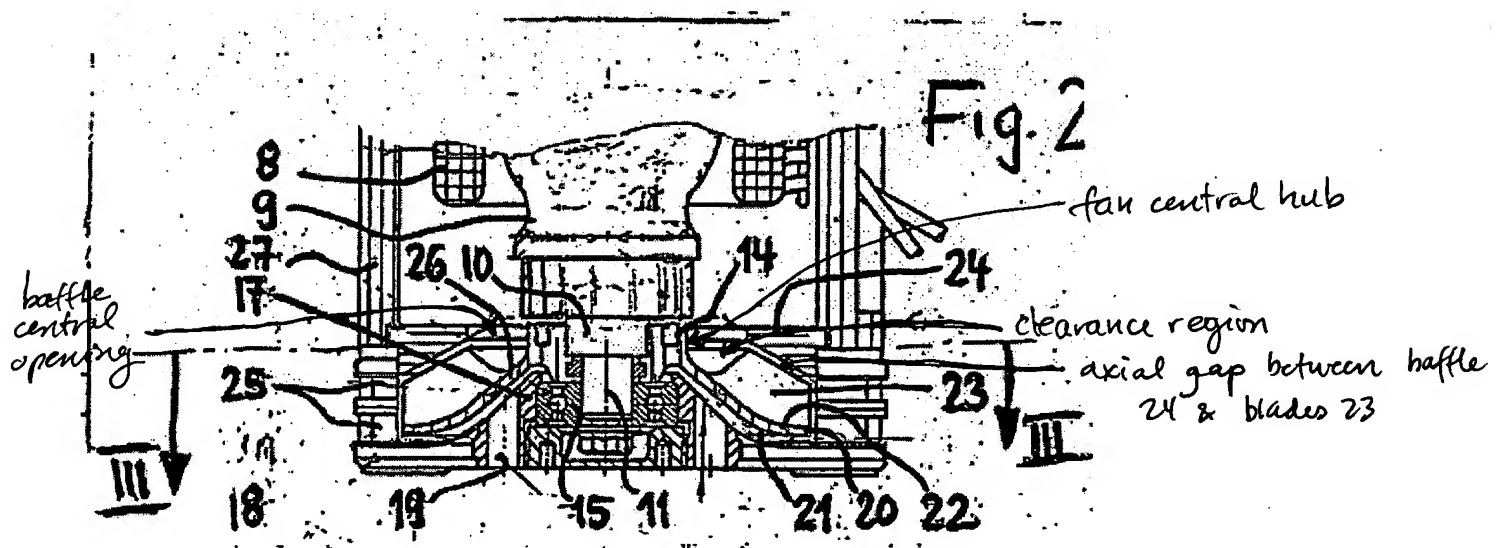


Regarding claim 21, vents 64 are positioned radially outward from the fan (Fig.2).

4. Claims 7-9, 17-19, and 21-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Wanner (DE 2910845). Wanner teaches a motor comprising: a housing 7 defined by a hollow

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casing (Fig.1); a stator (with coils 8) in the housing (Fig.1); a rotor 9 and rotor shaft 10 mounting the rotor for rotation in the housing (Fig.1); a fan 14 mounted on the rotor shaft to advance a flow of cooling air through the housing (p.7, lines 24-30), the fan having a central hub (not numbered; Figs.2-3) and plural blades 23; and a baffle 24 in the housing at a position generally between the stator 8 and the fan 14 for directing flow, the baffle having an annular shape (Fig.2) and a central opening (not numbered, Fig.2) for passage of cooling air toward the fan; wherein the blades 23 of the fan are spaced from the hub thereby forming a clearance region (not numbered, Fig.2) between the hub and blades, the baffle directing said flow of cooling air through the clearance region (Fig.2).



Regarding claim 9, air is pulled down from the motor and out vents 25 (p.7, second paragraph); thus the baffle upstream side faces stator windings 8 and the downstream side faces fan 14 and forms a uniform gap with blades 23 (Fig.2).

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Regarding claims 17-18, the baffle 24 extends radially inward from the housing and is above the fan forming a uniform axial gap therebetween (Fig.2).

Regarding claims 8 and 19, as seen in Fig.3, the fan blades 23 are 'backward curved' (Fig.3) since the leading edge is radially inside the trailing edge (each blade acting to push air out vents 25), i.e., the blades are inclined in a direction opposite the direction of rotation.

Regarding claim 21, note vents 25 positioned radially outward from the fan (Fig.2)

Regarding claims 22-23, the baffle 24 extends radially inward from the housing and is above the fan forming a uniform axial gap therebetween (Fig.2).

Regarding claim 24, as seen in Fig.3, the fan blades 23 are 'backward curved' (Fig.3) since the leading edge is radially inside the trailing edge (each blade acting to push air out vents 25).

Regarding claim 25, Wanner teaches an electric motor having a ventilation system, the motor comprising a housing 7, a stator (with coils 8) secured in the housing, a rotor 9 and a rotor shaft 10 mounting the rotor for rotation in the housing about an axis, a fan 14 mounted on the rotor shaft for rotation to advance a flow of cooling air through the housing to cool the motor (p.7, second paragraph), the fan having a central hub (not numbered; Figs.2&3) and a plurality of blades 23, the blades of the fan being spaced from the hub to form a clearance region between the hub and the blades (Fig.2), and a baffle 24 secured in the housing at a position generally between the stator and the fan (Fig.2), the baffle having an annular shape and a central opening (Fig.2), a portion of the baffle extending radially inward from the housing and positioned axially above a portion of the fan (Fig.2) forming an axial gap between said portion of the baffle and said portion of the fan (Fig.2).

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Regarding claim 26, as seen in Fig.2 the axial gap is generally uniform in size.

Regarding claim 27, the housing includes at least one vent opening 25 positioned radially outward from the fan.

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wanner (DE 2910845). Wanner does not specify the claimed gap size range between baffle 24 and fan blades 23; however, this would have been an obvious modification because it is not disclosed that the claimed range produces new and unexpected results different in kind and not merely in degree from the results of the prior art and hence would have involved ordinary skill. In re Aller, 105 USPQ 233 (CCPA 1955).

Response to Arguments

7. Applicant's arguments filed 8 September 2005 have been fully considered but they are not fully persuasive. Regarding the rejection of claim 7 over Wetters, applicant argues that Wetters does not disclose a baffle directing flow of cooling air through a clearance region formed between the blades and hub of a fan. This is not persuasive since Wetters teaches that:

“The fan 63 includes a flat disc part 66, an annular plate 67 spaced above the part 66, and a plurality of spaced blades 68 that extend between the parts 66 and 67. There is a clearance space 69 between the shell 21 and the fan 63, and an annular baffle 71 is mounted in this space 69 and fastened to the shell 21. When the rotor shaft 14 and the fan 63 rotate, the air is drawn downwardly through the motor and through the annular plate 67, and the air is thrown radially outwardly by the blades 68.” (c.3, lines 58-67)

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So when the fan 63 rotates, cooling air is drawn down through the motor, between the air gap and between the stator windings 26 and casing 21. The baffle 71, by virtue of its annular shape, diverts some of this downward-drawn cooling air towards the hole in the annular plate 67 and then into the clearance region between the blades 68 and fan hub 66, before the air is expelled through vents 64. Thus, the baffle can be said to “[direct] said flow of cooling air through the clearance region” as recited in claim 7.

Allowable Subject Matter

8. Claims 11 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art does not teach the claimed motor and fan including, inter alia, a rim on the outer periphery of the baffle, the rim having at least one tab configured to be received in a corresponding hole in the casing to releasably secure the baffle in the casing.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the

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mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Burton S. Mullins whose telephone number is 571-272-2029. The examiner can normally be reached on Monday-Friday, 9 am to 5 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Burton S. Mullins
Primary Examiner
Art Unit 2834

bsm

13 October 2005